

10/718,892

4/19/07

08:49:12 ON 19 APR 2007

10:54:29 ON 19 APR 2007

FILE 'HCAPLUS' ENTERED AT 08:50:38 ON 19 APR 2007

L1 7007 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (L)MOA/RL  
L2 27529 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (5A) (DEPOSIT##### OR  
DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR MODIFY###  
OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR INTRODUC##### OR  
IMPURIT####)  
L3 30516 SEA ABB=ON PLU=ON L1 OR L2  
L4 11491 SEA ABB=ON PLU=ON ((GE OR GERMANIUM) (4A) (THERMAL##### OR  
ACTIVAT##### OR ANNEAL##### OR HEAT### OR HOT OR (HIGH OR  
INCREAS####) (2A) (TEMP## OR TEMPERATURE))  
L5 106084 SEA ABB=ON PLU=ON (N TYPE OR NITROGEN OR PHOSPHORUS OR P OR  
ARSENIC OR AS) (5A) (DOP#### OR IMPLANT##### OR BOMBARD#### OR  
ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM OR ELECTRON  
BEAM OR IMPURIT####)  
L6 78685 SEA ABB=ON PLU=ON (NITROGEN OR N) (5A) (DOP#### OR IMPLANT#####  
OR BOMBARD#### OR ADDITIVE OR MODIFY### OR MODIFI### OR ION  
BEAM OR ELECTRON BEAM OR IMPURIT####)  
L7 139019 SEA ABB=ON PLU=ON L5 OR L6  
L8 3288 SEA ABB=ON PLU=ON L3 AND L4  
L9 51313 SEA ABB=ON PLU=ON (L3 OR L7) AND (THERMAL##### OR ACTIVAT####  
# OR ANNEAL##### OR HEAT### OR HOT OR (HIGH OR INCREAS####) (2A) (  
TEMP## OR TEMPERATURE))  
S L8 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICIDE OR NISI2 OR NI2

FILE 'REGISTRY' ENTERED AT 08:59:39 ON 19 APR 2007

L10 1 SEA ABB=ON PLU=ON 12201-89-7/RN

FILE 'HCAPLUS' ENTERED AT 08:59:39 ON 19 APR 2007

L11 1456 SEA ABB=ON PLU=ON L10

FILE 'REGISTRY' ENTERED AT 08:59:40 ON 19 APR 2007

L12 1 SEA ABB=ON PLU=ON 39467-10-2/RN

FILE 'HCAPLUS' ENTERED AT 08:59:40 ON 19 APR 2007

L13 1250 SEA ABB=ON PLU=ON L12

FILE 'REGISTRY' ENTERED AT 08:59:41 ON 19 APR 2007

L14 1 SEA ABB=ON PLU=ON 12035-57-3/RN

FILE 'HCAPLUS' ENTERED AT 08:59:41 ON 19 APR 2007

L15 1326 SEA ABB=ON PLU=ON L14  
L16 25 SEA ABB=ON PLU=ON L8 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICI  
DE OR NISI2 OR NI2SI OR L15 OR L13 OR L11 OR NICKEL(3A)MONOSILI  
CIDE)  
L17 116 SEA ABB=ON PLU=ON L8 AND (SILICID##### OR SALICID#####  
OR SILICONIZ##### OR SILICONIS#####)  
L18 117 SEA ABB=ON PLU=ON L16 OR L17  
L19 13 SEA ABB=ON PLU=ON L18 AND (BORON OR B) (L)MOA/RL  
L20 15 SEA ABB=ON PLU=ON L18 AND (BORON OR B) (5A) (DEPOSIT##### OR  
DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR MODIFY###  
OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR INTRODUC##### OR  
IMPURIT####)  
L21 6 SEA ABB=ON PLU=ON L18 AND (P TYPE OR ALUMINUM OR AL OR  
GALLIUM OR INDIUM OR GA) (5A) (DOP#### OR IMPLANT##### OR  
BOMBARD#### OR ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM  
OR ELECTRON BEAM OR IMPURIT####)  
L22 2733 SEA ABB=ON PLU=ON L9 AND (BORON OR B) (L)MOA/RL  
L23 2553 SEA ABB=ON PLU=ON L9 AND (GERMANIUM OR GE) (L)MOA/RL  
L24 9734 SEA ABB=ON PLU=ON L9 AND (GE OR GERMANIUM) (5A) (DEPOSIT#####  
OR DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR  
MODIFY### OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR  
INTRODUC##### OR IMPURIT####)

10/718,892

4/19/07

L4 ANSWER 15 OF 30 COPYRIGHT ACS on STN  
AN 2003:311691 HCAPLUS  
DN 139:237960  
ED Entered STN: 23 Apr 2003  
TI Enhanced phase stability and morphological stability of Ni(Si,Ge) on strained Si<sub>0.8</sub>Ge<sub>0.2</sub>  
AU Seger, J.; Zhang, S.-L.  
CS Department of Microelectronics and Information Technology, Kungliga Tekniska Hogskolan, Kista, SE-164 40, Swed.  
SO Thin Solid Films (2003), 429(1-2), 216-219  
CODEN: THSFAP; ISSN: 0040-6090  
PB Elsevier Science B.V.  
DT Journal  
LA English  
CC 75-7 (Crystallography and Liquid Crystals)  
AB NiSi<sub>0.8</sub>Ge<sub>0.2</sub> film formed on a strained Si<sub>0.8</sub>Ge<sub>0.2</sub> layer epitaxially grown on a Si(100) substrate wafer is morphol. stable up to 750°. The NiSi<sub>0.8</sub>Ge<sub>0.2</sub> film is strongly oriented along its <010> direction. This remarkable stability is thus possibly caused by the tendency of an epitaxial alignment between the NiSi<sub>0.8</sub>Ge<sub>0.2</sub> film and the Si<sub>0.8</sub>Ge<sub>0.2</sub> layer. The presence of Ge in NiSi forming the ternary solution NiSi<sub>0.8</sub>Ge<sub>0.2</sub> hinders the formation of NiSi<sub>2</sub> even at 850°. ST enhanced phase stability morphol germanium nickel silicide  
IT Crystal morphology  
Epitaxy  
Stability  
(enhanced phase stability and morphol. stability of Ni(Si,Ge) on strained Si<sub>0.8</sub>Ge<sub>0.2</sub> epitaxially grown on Si(100) substrate wafer)  
IT Sheet resistance  
(of Ni(Si,Ge) on strained Si<sub>0.8</sub>Ge<sub>0.2</sub> epitaxially grown on Si(100) substrate wafer)  
IT 37380-03-3, Germanium 20, silicon 80 (atomic) 592465-52-6, Germanium nickel silicide (Ge<sub>0.2</sub>NiSi<sub>0.8</sub>)  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)  
(enhanced phase stability and morphol. stability of Ni(Si,Ge) on strained Si<sub>0.8</sub>Ge<sub>0.2</sub> epitaxially grown on Si(100) substrate wafer)

L25 6804 SEA ABB=ON PLU=ON L9 AND (BORON OR B) (5A) (DEPOSIT##### OR  
DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR MODIFY###  
OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR INTRODUC##### OR  
IMPURIT####)

L26 11272 SEA ABB=ON PLU=ON L9 AND (P TYPE OR ALUMINUM OR AL OR  
GALLIUM OR INDIUM OR GA) (5A) (DOP#### OR IMPLANT##### OR  
BOMBARD#### OR ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM  
OR ELECTRON BEAM OR IMPURIT####)

L27 34180 SEA ABB=ON PLU=ON L9 AND (N TYPE OR NITROGEN OR PHOSPHORUS  
OR P OR ARSENIC OR AS) (5A) (DOP#### OR IMPLANT##### OR BOMBARD##  
## OR ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM OR  
ELECTRON BEAM OR IMPURIT####)

L28 15356 SEA ABB=ON PLU=ON (L22 OR L25 OR L26) AND (L23 OR L24 OR  
L27)  
S L28 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICIDE OR NISI2 OR NI

FILE 'REGISTRY' ENTERED AT 09:05:33 ON 19 APR 2007  
L29 1 SEA ABB=ON PLU=ON 12201-89-7/RN

FILE 'HCAPLUS' ENTERED AT 09:05:34 ON 19 APR 2007  
L30 1456 SEA ABB=ON PLU=ON L29

FILE 'REGISTRY' ENTERED AT 09:05:35 ON 19 APR 2007  
L31 1 SEA ABB=ON PLU=ON 39467-10-2/RN

FILE 'HCAPLUS' ENTERED AT 09:05:35 ON 19 APR 2007  
L32 1250 SEA ABB=ON PLU=ON L31

FILE 'REGISTRY' ENTERED AT 09:05:36 ON 19 APR 2007  
L33 1 SEA ABB=ON PLU=ON 12035-57-3/RN

FILE 'HCAPLUS' ENTERED AT 09:05:36 ON 19 APR 2007  
L34 1326 SEA ABB=ON PLU=ON L33  
L35 98 SEA ABB=ON PLU=ON L28 AND (NISI OR NI(W)SI OR NICKEL(3A)SILIC  
IDE OR NISI2 OR NI2SI OR L34 OR L32 OR L30 OR NICKEL(3A)MONOSIL  
ICIDE)  
L36 751 SEA ABB=ON PLU=ON L28 AND (SILICID##### OR SALICID#####  
# OR SILICONIZ##### OR SILICONIS#####)  
L37 169 SEA ABB=ON PLU=ON (L35 OR L36) AND (GERMANIUM OR GE)  
L38 570 SEA ABB=ON PLU=ON (L35 OR L36) AND (BORON OR B)  
L39 140 SEA ABB=ON PLU=ON L37 AND L38  
L40 236 SEA ABB=ON PLU=ON L18 OR L39  
L41 236 SEA ABB=ON PLU=ON L40 AND ((GERMANIUM OR GE OR (GERMANIUM OR  
GE) (L)MOA/RL))  
L42 146 SEA ABB=ON PLU=ON L40 AND ((BORON OR B OR (BORON OR B) (L)MOA/  
RL))  
L43 146 SEA ABB=ON PLU=ON L41 AND L42  
S L27 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICIDE OR NISI2 OR NI

FILE 'REGISTRY' ENTERED AT 09:10:51 ON 19 APR 2007  
L44 1 SEA ABB=ON PLU=ON 12201-89-7/RN

FILE 'HCAPLUS' ENTERED AT 09:10:51 ON 19 APR 2007  
L45 1456 SEA ABB=ON PLU=ON L44

FILE 'REGISTRY' ENTERED AT 09:10:52 ON 19 APR 2007  
L46 1 SEA ABB=ON PLU=ON 39467-10-2/RN

FILE 'HCAPLUS' ENTERED AT 09:10:52 ON 19 APR 2007  
L47 1250 SEA ABB=ON PLU=ON L46

FILE 'REGISTRY' ENTERED AT 09:10:53 ON 19 APR 2007  
L48 1 SEA ABB=ON PLU=ON 12035-57-3/RN

FILE 'HCAPLUS' ENTERED AT 09:10:53 ON 19 APR 2007  
L49 1326 SEA ABB=ON PLU=ON L48  
L50 188 SEA ABB=ON PLU=ON L27 AND (NISI OR NI(W)SI OR NICKEL(3A)SILIC  
IDE OR NISI2 OR NI2SI OR L49 OR L47 OR L45 OR NICKEL(3A)MONOSIL  
ICIDE)  
L51 1497 SEA ABB=ON PLU=ON L27 AND (SILICID##### OR SALICID#####  
# OR SILICONIZ##### OR SILICONIS#####)  
L52 1520 SEA ABB=ON PLU=ON L50 OR L51

L53 275 SEA ABB=ON PLU=ON L52 AND (P TYPE OR ALUMINUM OR AL OR  
GALLIUM OR INDIUM OR GA) (5A) (DOP#### OR IMPLANT#### OR  
BOMBARD#### OR ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM  
OR ELECTRON BEAM OR IMPURIT####)  
S L34 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICIDE OR NISI2 OR NI

FILE 'REGISTRY' ENTERED AT 09:13:25 ON 19 APR 2007  
L54 1 SEA ABB=ON PLU=ON 12201-89-7/RN

FILE 'HCAPLUS' ENTERED AT 09:13:25 ON 19 APR 2007  
L55 1456 SEA ABB=ON PLU=ON L54

FILE 'REGISTRY' ENTERED AT 09:13:26 ON 19 APR 2007  
L56 1 SEA ABB=ON PLU=ON 39467-10-2/RN

FILE 'HCAPLUS' ENTERED AT 09:13:26 ON 19 APR 2007  
L57 1250 SEA ABB=ON PLU=ON L56

FILE 'REGISTRY' ENTERED AT 09:13:27 ON 19 APR 2007  
L58 1 SEA ABB=ON PLU=ON 12035-57-3/RN

FILE 'HCAPLUS' ENTERED AT 09:13:27 ON 19 APR 2007  
L59 1326 SEA ABB=ON PLU=ON L58  
L60 1326 SEA ABB=ON PLU=ON L34 AND (NISI OR NI(W)SI OR NICKEL(3A)SILIC  
IDE OR NISI2 OR NI2SI OR L59 OR L57 OR L55 OR NICKEL(3A)MONOSIL  
ICIDE)  
L61 1289 SEA ABB=ON PLU=ON L34 AND (SILICID##### OR SALICID#####  
# OR SILICONIZ##### OR SILICONIS#####)  
L62 1326 SEA ABB=ON PLU=ON L60 OR L61  
L63 666 SEA ABB=ON PLU=ON ((L34 OR L35 OR L36 OR L37 OR L38 OR L39  
OR L40)) AND (FIELD EFFECT OR TRANSISTOR OR MOSFET OR MOS OR  
MISFET OR CMOS OR PMOS OR NMOS OR SBMOS OR PMOSFET OR NMOSFET  
OR LOCOS OR JFET OR IGFET OR MESFET)  
L64 1210 SEA ABB=ON PLU=ON ((L34 OR L35 OR L36 OR L37 OR L38 OR L39  
OR L40)) AND (GATE OR SOURCE OR DRAIN OR SOURCE(2A)DRAIN OR  
CONTACT OR REGION OR BODY OR JUNCTION OR CHANNEL OR MASK)  
L65 1274 SEA ABB=ON PLU=ON L63 OR L64  
L66 372 SEA ABB=ON PLU=ON L60 AND (FIELD EFFECT OR TRANSISTOR OR  
MOSFET OR MOS OR MISFET OR CMOS OR PMOS OR NMOS OR SBMOS OR  
PMOSFET OR NMOSFET OR LOCOS OR JFET OR IGFET OR MESFET)  
L67 657 SEA ABB=ON PLU=ON L60 AND (GATE OR SOURCE OR DRAIN OR  
SOURCE(2A)DRAIN OR CONTACT OR REGION OR BODY OR JUNCTION OR  
CHANNEL OR MASK)  
L68 705 SEA ABB=ON PLU=ON L66 OR L67  
L69 1274 SEA ABB=ON PLU=ON (L63 OR L64 OR L65 OR L66 OR L67 OR L68)  
L70 207 SEA ABB=ON PLU=ON L69 AND (GERMANIUM OR GE)  
L71 105 SEA ABB=ON PLU=ON L70 AND (BORON OR B OR BORON(L)MOA/RL)  
L72 101 SEA ABB=ON PLU=ON L71 AND (METHOD OR PROCESS##### OR  
FABRICAT##### OR MANUFACTUR##### OR STEP OR SEQUENTIAL? OR  
SEQUENC#### OR SUBSEQUENT? OR FOLLOW### OR AFTER#### OR  
PROCEDUR#### OR SERIES OR LATER OR SEQUENT OR ORDER###)  
L73 51 SEA ABB=ON PLU=ON L71 AND H01L?/IC,IPC  
L74 102 SEA ABB=ON PLU=ON L72 OR L73  
L75 54 SEA ABB=ON PLU=ON L74 AND P/DT  
L76 48 SEA ABB=ON PLU=ON L74 NOT L75  
L77 33 SEA ABB=ON PLU=ON L76 NOT 2004-2007/PY  
L78 37 SEA ABB=ON PLU=ON L75 AND 2004-2007/PRY,PY  
L79 36 SEA ABB=ON PLU=ON L75 AND 1984-2003/PRY,PY  
L80 17 SEA ABB=ON PLU=ON L75 NOT L78  
L81 36 SEA ABB=ON PLU=ON L79 OR L80  
L82 69 SEA ABB=ON PLU=ON L81 OR L77  
D L82 ALL 1-69  
L83 7007 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (L)MOA/RL  
L84 27529 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (5A) (DEPOSIT##### OR  
DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR MODIFY###  
OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR INTRODUC##### OR  
IMPURIT####)  
L85 30516 SEA ABB=ON PLU=ON L83 OR L84  
L86 11491 SEA ABB=ON PLU=ON ((GE OR GERMANIUM) (4A) (THERMAL##### OR  
ACTIVAT##### OR ANNEAL##### OR HEAT### OR HOT OR (HIGH OR  
INCREAS#####) (2A) (TEMP## OR TEMPERATURE)))

L87 8611 SEA ABB=ON PLU=ON ((GE OR GERMANIUM) (4A) (ACTIVAT#### OR  
 ANNEAL#### OR HEAT### OR HOT OR (HIGH OR INCREAS####) (2A) (TEMP  
 ## OR TEMPERATURE)))  
 L88 3288 SEA ABB=ON PLU=ON L85 AND L86  
 L89 116 SEA ABB=ON PLU=ON L88 AND (SILICID##### OR SALICID#####  
 # OR SILICONIZ##### OR SILICONIS#####)  
 L90 22 SEA ABB=ON PLU=ON L89 AND (NISI OR NI(W)SI OR NICKEL(3A)SILIC  
 IDE OR NISI2 OR NI2SI OR NICKEL(2A)MONOSILICIDE)  
 L91 116 SEA ABB=ON PLU=ON L89 OR L90  
 L92 106 SEA ABB=ON PLU=ON L91 NOT L82  
 L93 72 SEA ABB=ON PLU=ON L92 AND (METHOD OR PROCESS##### OR  
 FABRICAT##### OR MANUFACTUR##### OR STEP OR SEQUENTIAL? OR  
 SEQUENC#### OR SUBSEQUENT? OR FOLLOW### OR AFTER#####)  
 L94 23 SEA ABB=ON PLU=ON L92 AND (PROCEDUR#### OR SERIES OR LATER  
 OR SEQUENT OR ORDER### OR HOLL?/IC)  
 L95 78 SEA ABB=ON PLU=ON L93 OR L94  
 L96 26 SEA ABB=ON PLU=ON L95 AND P/DT  
 L97 52 SEA ABB=ON PLU=ON L95 NOT L96  
 L98 43 SEA ABB=ON PLU=ON L97 NOT 2004-2007/PY  
 L99 18 SEA ABB=ON PLU=ON L96 AND 2004-2007/PRY, PY  
 L100 15 SEA ABB=ON PLU=ON L96 AND 1985-2003/PRY, PY  
 L101 8 SEA ABB=ON PLU=ON L96 NOT L99  
 L102 16 SEA ABB=ON PLU=ON LL00 OR L101  
 L103 59 SEA ABB=ON PLU=ON L102 OR L98  
 L104 7 SEA ABB=ON PLU=ON L103 AND (BORON OR B OR BF2 OR (BORON OR  
 B) (L)MOA/RL)  
 L105 15 SEA ABB=ON PLU=ON L103 AND (P TYPE OR ALUMINUM OR AL OR  
 GALLIUM OR INDIUM OR GA)  
 L106 19 SEA ABB=ON PLU=ON L104 OR L105  
 L107 19 SEA ABB=ON PLU=ON (L104 OR L105 OR L106)  
 D L107 ALL 1-19

10/718,892

4/19/07

4/19/2007 2:01:21 PM

4/19/2007 2:40:49 PM

[File 348] EUROPEAN PATENTS 1978-2007/ 200715

[File 349] PCT FULLTEXT 1979-2007/UB=20070412UT=20070305

Set	Items	Description
S1	6954	S (GE OR GERMANIUM) (8N) (DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S2	1596	S ((GE OR GERMANIUM) (6N) (RTA OR ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS??? (2N) (TEMP?? OR TEMPERATURE? ?)))
S3	105412	S (BORON OR B OR BF???) (8N) (DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S4	1569952	S (BORON OR B OR BF???)
S5	522	S S1 AND S2
S6	279	S S5 AND S3
S7	23	S S6 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S8	74	S S6 AND (SILICID???????? OR SALICID???????? OR SILICONIZ???????? OR SILICONIS????????)
S9	77	S S7 OR S8
S10	11	S (PREVENT???? OR HINDER???? OR ELIMINAT???? OR SLOW??? OR BLOCK???? OR STOPPING OR INHIBIT???? OR SUPPRESS???? OR IMPED???? OR AVOID????) (5N) (NI(2N)DISILICIDE OR NI(W)SI2 OR NICKEL(2N)DISILICIDE? ? OR NISI2 OR NI2SI)
S11	7080	S (GE OR GERMANIUM) (8N) (DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S12	526	S S11 AND S2
S13	5424	S S11 AND (RTA OR ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS??? (2N) (TEMP?? OR TEMPERATURE? ?)))
S14	4606	S S13 AND (BORON OR B OR BF???)
S15	1417	S S13 AND ((P()TYPE AND N()TYPE))
S16	118	S S14 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S17	535	S S14 AND (SILICID???????? OR SALICID???????? OR SILICONIZ???????? OR SILICONIS????????)
S18	559	S S16 OR S17
S19	528	S S18 AND (FIELD()EFFECT? OR TRANSISTOR? ? OR MOSFET? ? OR MOS? ? OR MISFET? ? OR CMOS? ? OR C()MOS? ? OR PMOS? ? OR P()MOS? ? OR NMOS? ? OR N()MOS? ? OR SBMOS? ? OR SB()MOS? ? OR PMOSFET? ? OR P()MOSFET? ? OR NMOSFET? ? OR N()MOSFET? ? OR LOCOS OR JFET? ? OR J()FET? ? OR IGFET? ? OR MESFET? ?)
S20	554	S S18 AND (GATE? ? OR SOURCE? ? OR DRAIN? ? OR SOURCE(2N)DRAIN? ? OR CONTACT? ? OR REGION? ? OR BODY OR BODIES OR JUNCTION? ? OR CHANNEL? ? OR MASK? ?)
S21	451	S (S19 OR S20) AND (GERMANIUM?)
S22	85	S S9 OR S10
S23	339	S S21 AND (LATTICE OR THERMAL()BUDGET OR SOURCE(3N)DRAIN?)
S24	45	S S21 AND SPIK???
S25	111	S (S19 OR S20) AND ((GE OR GERMANIUM) (8N) (RTA OR ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS??? (2N) (TEMP?? OR TEMPERATURE? ?)))
S26	219	S S21 AND (LATTICE? ? OR THERMAL()BUDGET? ?)
S27	93	S S21 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S28	350	S S21 AND IC=H01L?
S29	407	S S22 OR S24 OR S25 OR S27 OR S28
S30	397	S (S22 OR S24 OR S25 OR S27 OR S28) AND (SILICID???????? OR SALICID???????? OR SILICONIZ???????? OR SILICONIS????????)
S31	407	S S29 OR S30
S32	399	S S31 AND (SEMICONDUCT???? OR TRANSISTOR? ?)
S33	205	S S32 AND PD<=20031128
S34	205	S S33 AND (METHOD? ? OR PROCESS???? OR FABRICAT???? OR MANUFACTUR???? OR STEP? ? OR SEQUENTIAL? OR SEQUENC???? OR SUBSEQUENT??? OR FOLLOW???? OR AFTER???? OR PROCEDUR???? OR SERIES OR LATER OR SEQUENT? ? OR ORDER????)
S35	138	S S33 AND (GATE OR SOURCE(3N)DRAIN? ?)
S36	134	S S35 AND (IMPLANT???????? OR DOP?????)
S37	116	S S36 AND (ACTIVAT???????? OR ANNEAL?)
S38	69	S S37 AND (GERMANIUM) (5N) (IMPLANT???????? OR DOP?????)
S39	84	S S37 AND (BORON OR B OR BF???) (5N) (IMPLANT???????? OR DOP?????)
S40	56	S S38 AND S39

10/718,892

4/19/07

4/19/2007 1:29:34 PM

4/19/2007 1:43:33 PM

[File 2] INSPEC 1898-2007/Apr W2

Set	Items	Description
S1	14340	S (GE OR GERMANIUM) (8N) (DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S2	4408	S ((GE OR GERMANIUM) (6N) (ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS????) (2N) (TEMP?? OR TEMPERATURE? ?)))
S3	107713	S (N()TYPE OR NITROGEN OR PHOSPHORUS OR P OR ARSENIC OR AS) (6N) (DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM OR ELECTRON()BEAM OR E()BEAM OR IMPURIT????)
S4	120825	S ((N()TYPE OR NITROGEN OR PHOSPHORUS OR P OR ARSENIC OR AS) (6N) (ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS????) (2N) (TEMP?? OR TEMPERATURE? ?)))
S5	25954	S (BORON OR B) (8N) (DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S6	49072	S (P()TYPE OR ALUMINUM OR AL OR GALLIUM OR INDIUM OR GA) (6N) (DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S7	1375	S S1 AND S2
S8	9033	S S3 AND S4
S9	104	S S7 AND S5
S10	150	S S7 AND (BORON OR B)
S11	1359	S S8 AND (BORON OR B OR BF??)
S12	2982	S S8 AND CC=A6170T?
S13	1108	S S8 AND CC=A6180J?
S14	2516	S S8 AND CC=B2550B?
S15	3809	S S12:S14
S16	759	S S15 AND (BORON OR B OR BF??)
S17	154	S S7 AND (BORON OR B OR BF??)
S18	154	S S9 OR S10 OR S17
S19	0	S S18 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S20	0	S S18 AND (CI=NISI2 OR CI=NISI OR CI=NI2SI)
S21	6	S S18 AND (SILICID???????? OR SALICID???????? OR SILICONIZ???????? OR SILICONIS????????)
S22	45	S S16 AND (SILICID???????? OR SALICID???????? OR SILICONIZ???????? OR SILICONIS????????)
S23	7	S S16 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S24	51	S S21:S23
S25	0	S S18 AND DISILIC????????????????
S26	0	S (PREVENT???? OR HINDER???? OR ELIMINAT???? OR SLOW??? OR BLOCK???? OR STOPPING OR INHIBIT???? OR SUPPRESS???? OR IMPED???? OR AVOID????) (5N) (NI(2N)DISILICIDE OR NI(W)SI2 OR NICKEL(2N)DISILICIDE? ? OR NISI2 OR NI2SI)
S27	225	S S15 AND (GERMANIUM OR GE)
S28	759	S S15 AND (BORON OR B OR BF??)
S29	183	S S15 AND CI=GE
S30	460	S S15 AND CI=B
S31	64	S (S27 OR S29) AND (S28 OR S30)
S32	2	S S31 AND (SILICID???????? OR SALICID???????? OR SILICONIZ???????? OR SILICONIS????????)
S33	51	S S32 OR S24
S34	47	S S33 NOT S33/2004-2007

10/718,892

4/19/07

12:07:16 ON 19 APR 2007

12:30:21 ON 19 APR 2007

FILE 'HCAPLUS' ENTERED AT 12:07:32 ON 19 APR 2007

L1 1 SEA ABB=ON PLU=ON US 6399452/PN  
D L1 ALL

L2 15 SEA ABB=ON PLU=ON (PREVENT#### OR HINDER#### OR ELIMINAT####  
OR SLOW### OR BLOCK#####) (4A) (NI DISILICIDE OR NI(W)SI2 OR  
NICKEL(2A)DISILICIDE OR NISI2 OR NI2SI)

L3 16 SEA ABB=ON PLU=ON (STOP OR STOPPING OR INHIBIT##### OR  
SUPPRESS##### OR IMPED#### OR AVOID####) (4A) (NI DISILICIDE OR  
NI(W)SI2 OR NICKEL(2A)DISILICIDE OR NISI2 OR NI2SI)

L4 30 SEA ABB=ON PLU=ON L2 OR L3  
D L4 ALL 1-30

L82 ANSWER 65 OF 69 COPYRIGHT ACS on STN  
AN 1992:73521 HCAPLUS  
DN 116:73521  
ED Entered STN: 21 Feb 1992  
TI Ultra shallow junction formation using diffusion from  
silicides. I. Silicide formation, dopant implantation  
and depth profiling  
AU Jiang, H.; Osburn, C. M.; Smith, P.; Xiao, Z. G.; Griffis, D.; McGuire,  
G.; Rozgonyi, G. A.  
CS Dep. Electr. Comput. Eng., North Carolina State Univ., Raleigh, NC,  
27695-9711, USA  
SO Journal of the Electrochemical Society (1992), 139(1), 196-206  
CODEN: JESQAN; ISSN: 0013-4651  
DT Journal  
LA English  
CC 76-3 (Electric Phenomena)  
Section cross-reference(s): 79  
AB Shallow junctions were fabricated in a silicide-As-diffusion-source process  
using implantation of BF<sub>3</sub> and As into thin silicides of cobalt, titanium,  
nickel, palladium, and platinum with emphasis on CoSi<sub>2</sub>. Ge-implantation was  
used in an attempt to amorphize the silicide prior to the boron introduction  
and thereby eliminate the possible channeling of boron in the polycryst.  
silicide. Ge implantation created a heavily damaged layer of 10 nm in the  
silicide, which was restored to a polycryst. state after annealing at 900° for  
10 s. The boron profile in a thick CoSi<sub>2</sub>, 300 nm, measured deeper than in a  
thin CoSi<sub>2</sub>, 50 nm, demonstrating the effect of SIMS shadowing. The effect of  
Ge- implantation on boron profiles was within the depth measurement error,  
indicating that no pronounced channeling had taken place in the silicide.  
Implant depths measured by SIMS agree well with those calculated by TRIM near  
the peak, but large deviations exist at the tail.  
ST junction fabrication metal silicide dopant  
implantation  
IT Transition metal silicides  
RL: USES (Uses)  
(boron profile and sheet resistivity of doped)  
IT Surface structure  
(of cobalt silicide and titanium silicide,  
after germanium and boron fluoride  
implantation)  
IT Semiconductor junctions  
(silicon, fabrication of, from transition metal  
silicides)  
IT 7440-56-4D, Germanium, ions, uses  
RL: USES (Uses)  
(amorphization of silicon by implantation with, prior to  
introduction of boron, for junction  
fabrication)  
IT 12017-12-8, Cobalt disilicide 12035-57-3, Nickel  
monosilicide 12039-83-7, Titanium disilicide 12137-83-6,  
Platinum monosilicide 12188-53-3, Palladium silicide (pd2si)  
RL: USES (Uses)  
(boron profile and sheet resistivity of boron  
fluoride implanted)

10/718,892

4/19/07

L4 ANSWER 13 OF 30 COPYRIGHT ACS on STN

AN 2003:892048 HCAPLUS

DN 139:372970

ED Entered STN: 14 Nov 2003

TI Manufacture of nickel-silicon-based thin layers in short time as electrodes for electronic devices

IN Yasuda, Yukio; Zaima, Shizuaki; Sakai, Akira; Nakatsuka, Satoru; Tsuchiya, Yoshinori

PA Nagoya University, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01L021-28

CC 76-2 (Electric Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2003324078	A	20031114	JP 2002-130561	20020502
	JP 3876307	B2	20070131		
PRAI	JP 2002-130561		20020502		

AB Ni thin layers are formed on Si substrates via Ge-containing thin layers, and the resulting multilayer structures are heat-treated at predetd. temps to give nickel silicon germanium layers. Ge ion implantation in the Si substrates may be carried out in stead of forming the Ge-containing thin layers. The process inhibits formation of NiSi<sub>2</sub> phases causing elevation of resistivity and surface and interface roughness, even if the multilayer films are heat-treated at high temperature, e.g.,  $\geq 750^\circ$ .

ST nickel silicon germanium multilayer film electrode; electronic device  
electrode nickel silicon germanium

IT Electric apparatus

Film electrodes

Ion implantation

(manufacture of nickel silicon germanium layers on Si substrates as electrodes for electronic devices)

IT 7440-02-0, Nickel, processes 7440-56-4, Germanium, processes  
11148-26-8, Germanium 14, silicon 86 (atomic) 116984-55-5, Germanium 46,  
silicon 54 (atomic)

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(manufacture of nickel silicon germanium layers on Si substrates as electrodes for electronic devices)

IT 7440-21-3, Silicon, processes

RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(substrate; manufacture of nickel silicon germanium layers on Si substrates as electrodes for electronic devices)